



विद्या सर्वार्थ साधिका

**ANANDALAYA**  
**PERIODIC TEST-1**  
Class : XII

Subject: Biology  
Date : 18-07-2023

MM :40  
Time: 1hr 30min

**General Instructions:**

- i. This question paper consists of five sections with 20 questions.
- ii. All the questions are compulsory. However, internal choice is provided in certain questions. A student has to attempt only one of the options.
- iii. Section A consists of 12 objective type questions.
- iv. Section B consists of 2 case based questions carrying 4 marks each. Answers to these questions should be in the range of 30 to 50 words.
- v. Section C consists of 2 questions carrying 2 marks each. Answer to these questions should be in the range of 30 to 50 words.
- vi. Section D consists of 2 questions of 3 marks each.
- vii. Section E consists of 2 questions of 5 marks each.
- viii. Wherever necessary, neat and properly labelled diagrams should be drawn.

**SECTION A**

Select and write one most appropriate option out of the four options given for each question 1-12

1. Through which cell of the embryo sac does the pollen cell enter the embryo sac? (1)  
(A) Egg cell (B) Persistent synergid  
(C) Degenerated synergid (D) Central cell
2. Double fertilization involves \_\_\_\_\_. (1)  
(A) fertilization of egg by 2 male gametes  
(B) fertilization of two eggs in the same embryo sac by two male nuclei brought by different pollen tubes  
(C) fertilization of the egg and the central cell by two male nuclei brought by different pollen tubes.  
(D) fertilization of the egg and the central cell by two male nuclei brought by the same pollen.
3. Identify the wrong statement regarding post fertilization event. (1)  
(A) The ovary wall develops into pericarp.  
(B) The outer integument of the ovule develops into tegmen.  
(C) The fusion nucleus (triple fusion) develops into endosperm.  
(D) The ovary develops into fruit.
4. In the human female, menstruation can be deferred by the administration of \_\_\_\_\_. (1)  
(A) combination of FSH and LH (B) combination of estrogen and progesterone  
(C) FSH only (D) LH only
5. The correct sequence of spermatogenic stages leading to the formation of sperms in a mature human testis is \_\_\_\_\_. (1)  
(A) Spermatogonia-spermatid-spermatocyte- sperm  
(B) Spermatocyte-spermatogonia-spermatid-sperm  
(C) spermatogonia-spermatocyte-spermatid-sperm  
(D) Spermatid-spermatocyte-spermatogonia-sperm

6. The secretion of one of the following is rich in fructose, calcium and some enzymes. Select it. (1)  
 (A) uterus (B) liver  
 (C) male accessory glands (D) female accessory glands
7. Medical termination of pregnancy is considered safe up to how many weeks of pregnancy?  
 (A) 8 weeks (B) 12 weeks  
 (C) 18 weeks (D) 6 weeks
8. Cu-T prevents pregnancy by preventing \_\_\_\_\_. (1)  
 (A) fertilization (B) ovulation  
 (C) implantation of fertilized egg (D) maturation of egg
9. In which of the following techniques, the embryos are transferred to assist those females who cannot conceive? (1)  
 (A) ZIFT and IUT (B) GIFT and ZIFT  
 (C) ICSI and ZIFT (D) GIFT and ICSI
10. From the sexually transmitted diseases mentioned below, identify the one that does not affect the sex organ. (1)  
 (A) AIDS (B) Syphilis  
 (C) Gonorrhoea (D) Genital warts
11. Acrosomal reaction of the sperm occurs due to \_\_\_\_\_. (1)  
 (A) its contact with zona pellucida of the ovum  
 (B) reaction with the uterine environment of the female  
 (C) reaction within the ampulla region of the fallopian tube  
 (D) androgens produced in the uterus
12. During microsporogenesis, meiosis occurs in \_\_\_\_\_. (1)  
 (A) endothecium (B) microspore mother cell  
 (C) microspore tetrad (D) male gametophyte

### SECTION – B

13. MTP is also known as induced abortion. It is usually done to get rid of unwanted pregnancies due to casual unprotected sex, failure of contraception and to terminate pregnancies due to rapes. It is essential when pregnancy is a threat to the life of the mother or foetus. In India, even though it is legalised, strict monitoring is done to prevent female foeticide. It is safe during the first trimester of pregnancy and becomes riskier in the second trimester. (4)  
 Based on the above information, now answer any four questions given below.
- i. MTP was legalised in India since \_\_\_\_\_.  
 (A) 1970 (B) 1971  
 (C) 1980 (D) 2000
- ii. Medical termination of pregnancy is also known as \_\_\_\_\_.  
 (A) infanticide (B) Induced abortion  
 (C) miscarriage (D) pregnancy termination
- iii. What is considered as first trimester of pregnancy?  
 (A) 13 weeks (B) 5 weeks  
 (C) 15 weeks (D) 20 weeks
- iv. Female foeticide results in \_\_\_\_\_.  
 (A) Abnormal sex ratio (B) Increased death rate  
 (C) High child mortality rate (D) High infant mortality rate

- v. The correct surgical procedure as a contraceptive method is \_\_\_\_ .  
 (A) ovariectomy (B) hysterectomy  
 (C) vasectomy (D) hysterectomy
14. Reproduction in male is controlled by hormones. The growth, maintenance and the functions of secondary sexual organs like epididymis, vasa deferentia and penis and of accessory glands like prostate, seminal vesicles, Cowper's gland etc are under the control of male hormone, secreted by Leydig cells. The seminiferous tubules and Leydig cells are regulated by FSH and ICSH. Release of FSH and ICSH are, in turn, regulated by release of GnRH. (4)
- i. Which of the following is not a function of FSH?  
 (A) Growth of Graafian follicle (B) Maintenance of ovum  
 (C) Regulation of seminiferous tubule (D) Maintenance of secondary sex organs
- ii. Which gland secretes GnRH?  
 (A) Hypothalamus (B) Anterior pituitary  
 (C) Posterior pituitary (D) Leydig cells
- iii. The male hormone that controls primary and secondary sexual characters in male is \_\_\_\_ .  
 (A) progesterone (B) estrogen  
 (C) testosterone (D) androgen
- iv. The male hormone testosterone is secreted by \_\_\_\_ .  
 (A) Leydig cells (B) Cowper's glands  
 (C) Seminal vesicle (D) Prostate
- v. Spot the odd one out from the following structures with reference to male reproductive system.  
 (A) rete testis (B) epididymis  
 (C) vas deference (D) isthmus

### SECTION C

15. How does the endosperm of angiosperm become triploid? (2)
16. Why are menstrual cycles absent during pregnancy? (2)

### SECTION D

17. What is amniocentesis? Describe its application. Mention a similar technique done for the same purpose (3)
18. Why is autogamy discouraged by nature in plants? Mention any four adaptations to encourage xenogamy. (3)

### SECTION E

19. a. Draw a labelled diagram of seminiferous tubule. (5)  
 b. Differentiate between gametogenesis in human male and female based on:  
 The stage of initiation of the process and products formed at the end of this process.
20. a. Define population density. (5)  
 b. What are the consequences of high population density?  
 c. Why is it necessary to change the outlook of people in India as far as birth control is considered?